Wherefore, I/we claim:

1. An indicia for marking on an object for representing selected information, comprising:

a multi-dimensional array of encoded marks, including

encoded marks determined by spectral encoding variables representing the selected information,

each spectral variable being spectrally distinguishable from others of the spectral variables representing variables, and

an encoded pattern of the encoded marks determined by algorithmic transformation of the selected information.

2. The indicia of claim 1 wherein the encoded pattern is an encoded hologram multi-dimensional barcode.

3. The indicia of claim 1, wherein the encoded pattern is one of an encoded hologram and an encoded concentric circular barcode.

4. The indicia of claim 2 wherein a spectral encoding variable is one of a wavelength of radiation used in encoding a hologram and a working distance of a hologram.

5. The indicia of claim 2 wherein each encoding spectral variable has a unique effect in determining the encoded pattern of marks.

6. The indicia of claim 3 wherein a concentric circular barcode comprises an array of concentric ring patterns wherein each ring pattern is a circular based intensity encoding of a corresponding information item.

7. The indicia of claim 2 wherein the selected information is encoded by one of a binary phase Fourier, DOE, CGH, Lohmann, Lee, Fourier, Fraunhofer, Fresnel and kinoform type of hologram encoding algorithm.

8. The indicia of claim 1 wherein an indicia is formed on a surface of an object by deposition of a material on the surface.

9. The indicia of claim 1 wherein an indicia is imprinted in a marked surface of an object by physical impact of a marking indicia that is an inverse image of the indicia.

10. The indicia of claim 1 wherein an indicia is formed on a surface of an object by removal of selected areas of surface material representing an image of the indicia.

11. The indicia of claim 1 wherein an indicia is comprised of a plurality of spectrally distinguishable layers superimposed on a surface of an object.

12. The indicia of claim 11 wherein a layer of the indicia is formed in a surface material of the object by one of removal of selected areas of the surface material and by physical impact of a marking indicia that is an inverse image of the indicia.

13. The indicia of claim 9 wherein the object is a cartridge case and the marking indicia is located on a marking surface of a firearm.

14. The indicia of claim 13 wherein the marking indicia is formed in the marking surface.

15. The indicia of claim 13 wherein the marking indicia is formed in an impact face of a marking insert embedded in the marking surface.

16. A method for creating an indicia for marking on an object for representing selected information, comprising the steps of:

generating a multi-dimensional array of encoded marks forming an encoded pattern determined by an algorithmic transformation of the selected information,

each encoded mark being determined by spectral encoding variables representing the selected information, and

each spectral variable being spectrally distinguishable from others of the spectral variables representing variables,

forming an image of the encoded pattern and artwork on a surface of the object.

17. The method for creating an indicia for marking on an object for representing selected information of claim 16 wherein the encoded pattern is an encoded hologram multi-dimensional barcode.

18. The method for creating an indicia for marking on an object for representing selected information of claim 16 wherein the encoded pattern is one of an encoded hologram and an encoded concentric circular barcode.

19. The method for creating an indicia for marking on an object for representing selected information of claim 17 wherein a spectral encoding variable is one of a wavelength of radiation used in encoding a hologram and a working distance of a hologram.

20. The method for creating an indicia for marking on an object for representing selected information of claim 17 wherein each encoding spectral variable has a unique effect in determining the encoded pattern of marks.

21. The method for creating an indicia for marking on an object for representing selected information of claim 18 wherein a concentric circular barcode comprises an array of concentric ring patterns wherein each ring pattern is a circular based intensity encoding of a corresponding information item.

22. The method for creating an indicia for marking on an object for representing selected information of claim 16 further comprising the step of conjoining an algorithm related artwork with the encoded pattern.

23. A method for reading an encoded multi-dimensional indicia for marking on an object and representing selected information, comprising the steps of:

viewing the encoded multi-dimensional indicia according to at least one spectral encoding variable,

each spectral encoding variable corresponding to a spectral encoding variable employed in creating the encoded multi-dimensional indicia,

reading an encoded pattern representing a multi-dimensional array of encoded marks represented the selected information, and

decoding the encoded pattern of encoded marks with an inverse algorithmic transform of an algorithmic transformation employed in generating the encoded pattern from the selected information.

24. The method for reading an encoded multi-dimensional indicia for marking on an object and representing selected information of claim 23 wherein at least one spectral encoding variable is a selected spectral illumination.

25. The method for reading an encoded multi-dimensional indicia for marking on an object and representing selected information of claim 23 wherein at least one step of viewing the encoded multi-dimensional indicia according to a spectral encoding variable includes viewing the indicia with a corresponding filter.

26. The method for creating an indicia for marking on an object for representing selected information of claim 23 wherein the encoded pattern is an encoded hologram multi-dimensional barcode.

27. The method for creating an indicia for marking on an object for representing selected information of claim 23 wherein the encoded pattern is one of an encoded hologram and an encoded concentric circular barcode.

28. The method for creating an indicia for marking on an object for representing selected information of claim 24 wherein a spectral encoding variable is one of a wavelength of radiation used in encoding a hologram and a working distance of a hologram.

29. The method for creating an indicia for marking on an object for representing selected information of claim 23 wherein each spectral encoding variable has a unique effect in determining the encoded pattern of marks.

30. The method for creating an indicia for marking on an object for representing selected information of claim 27 wherein a concentric circular barcode comprises an array of concentric ring patterns wherein each ring pattern is a circular based intensity encoding of a corresponding information item.

31. The method for creating an indicia for marking on an object for representing selected information of claim 23 further comprising the step of conjoining an algorithm related artwork with the encoded pattern.

32. Imaging and image capture apparatus for reading an encoded multi-dimensional identification indicia marked on a cartridge case discharged

a firearm and representing selected information identifying the firearm, comprising:

in a self contained unit,

a specimen port having therein a mounting device for receiving and holding a cartridge case;

a viewing mechanism including

an imaging mechanism having a viewing axis substantially perpendicular to an indicia bearing surface of a cartridge for obtaining images of an encoded indicia thereon;

a spectral illuminator for illuminating the indicia bearing surface of the cartridge case with at least one spectral encoding variable according to a corresponding encoding process, wherein

each spectral encoding variable corresponds to a spectral encoding variable employed in creating the encoded indicia;

an image capture mechanism including a focusing mechanism for automatically adjusting the focus of the image of an indicia on the indicia bearing surface of the cartridge, and

capturing at least one spectrally illuminated image of an indicia on the indicia bearing surface of the cartridge case,

a captured image including an encoded pattern representing a multi-dimensional array of encoded marks represented the selected information, and

an image decoding mechanism for decoding the encoded pattern of encoded marks with an inverse algorithmic transform of an algorithmic transformation employed in generating the encoded pattern from the selected information.

33. Marking apparatus for marking an identification indicia on an object, comprising:

an array of marking elements distributed on a surface contacting a surface of the object,

each marking element having a central striking face bearing a marking indicia, so that

a representation of at least one marking indicia is imprinted on the surface of the object as an identification indicia when the surface bearing the array of marking elements contacts the surface of the object.

34. The marking apparatus of claim 33, wherein

the object is a cartridge case, and

the surface bearing the array of marking elements is a surface of a firearm contacting a surface of the cartridge case.

35. The marking apparatus of claim 33, wherein:

each marking element is a marking boss wherein

each marking boss is a convex protrusion from the surface bearing the array of marking elements,

each marking boss includes a centrally located striking surface bearing a marking indicia.

36. The marking apparatus of claim 33, wherein:

each marking element is a marking dimple wherein

each marking dimple is a concave depression in the surface bearing the array of marking elements, and

each marking dimple includes a centrally located striking surface bearing a marking indicia.

37. A method for marking an identification indicia on an object, comprising the steps of:

distributing an array of marking elements on a surface contacting a surface of the object, wherein

each marking element includes a central striking face bearing a marking indicia, and

bringing the surface bearing the array of marking elements into contact with the surface of the object so that a representation of at least one marking indicia is imprinted on the surface of the object as an identification

indicia when the surface bearing the array of marking elements contacts the surface of the object.

38. The method for marking indicia of claim 37, wherein

the object is a cartridge case, and

the surface bearing the array of marking elements is a surface of a firearm contacting a surface of the cartridge case.

39. The method for marking indicia of claim 37, wherein:

each marking element is a marking boss wherein

each marking boss is a convex protrusion from the surface bearing the array of marking elements,

each marking boss includes a centrally located striking surface bearing a marking indicia.

40. The method for marking indicia of claim 37, wherein:

each marking element is a marking dimple wherein

each marking dimple is a concave depression in the surface bearing the array of marking elements, and

each marking dimple includes a centrally located striking surface bearing a marking indicia.

41. A firearm firing pin anti-tampering marking indicia for marking an identification indicia representing selected information on a portion of a cartridge case, comprising:

a radial bar code residing on the circumference of an end section of a striking member of a firing pin,

the radial bar code including a plurality of grooves and lands extending from an end of the striking section impacting a portion of a cartridge case and along the striking member for a preselected encoding distance to mark the radial bar code represented by the grooves and lands into the portion of the cartridge case, wherein

the encoding distance is selected such that removal of the radial bar code from the firing pin by removal of a portion of the striking section

containing the radial bar code with render the firing pin incapable of impacting the cartridge case to fire the cartridge.

42. The firearm firing pin anti-tampering marking indicia of claim 41 wherein a radial bar code comprises:

a start code,

a plurality of digit codes representing the information encoded in the radial bar code, and

and end code.

43. The firearm firing pin anti-tampering marking indicia of claim 42 wherein a radial bar code further comprises:

a checksum code for error detection for the digit codes.

44. The firearm firing pin anti-tampering marking indicia of claim 41 wherein the radial bar code is disposed along a least one straight peripheral edge of the end section of an elliptical firing pin.

45. A firearm firing pin anti-tampering marking indicia for marking an identification indicia representing selected information on a portion of a cartridge case, comprising:

a marking indicia disposed in a circular pattern on an end face of a firing pin tip wherein

the circular pattern is centered about an axis of the firing pin, and

is physically encoded as a sequence of encoded bits recessed into a surface of an end face of the firing pin tip, the encoded bits being separated by encoded lands, such that

removal of the marking indicia from the firing pin by removal of a portion of the striking section of the firing pin tip will render the firing pin incapable of impacting the cartridge case to fire the cartridge.

46. A firearm evidence support device, comprising:

a reading device and a communications/position module,

the communications/position module including

a communications module including a network controller and port drivers,

a navigation module including a geographical position sensor and a local positioning device,

a processor module,

an input/output device, and

a reading device for obtaining identification image information from a cartridge case.